ABSTRACT

A method for simulating, analyzing and/or designing an automated assembly system including a plurality of resources comprises: defining at least one cell from an automated assembly line; associating an action table with each cell; calculating a duration, a success rate and a repair time for each process step using fundamental data of the resources; and associating the duration, the success rate and the repair time with each process step in each action table. The action table of a respective cell specifies all process steps that are executed in the respective cell. A system for simulating, analyzing and/or designing an automated assembly system comprises a discrete event simulator and a three-dimensional kinematic and dynamic simulator coupled with the discrete event simulator. The kinematic and dynamic simulator generates timing data for the automated assembly system that is used by the discrete event simulator. A system for determining a costed-throughput is also provided.